

A Conceptually-Based Empirical Analysis on Quality Differences Between UK Annual Reports and US 10-K Reports

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The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) stress the importance of high-quality financial reports. From a scientific point of view, however, major methodological drawbacks can arise when trying to arrive at a comprehensive assessment and evaluation of the decision usefulness of financial reports. In this conceptually-based exploratory study, the authors construct a 33-item index aimed at operationalizing decision usefulness in terms of the fundamental and enhancing qualitative characteristics laid out in the conceptual framework (CF) of the IASB (2010). Using a matched-pairs sample design, which includes 70 UK annual reports and 70 US 10-K reports for 2010, the results of test-retest and inter-rater reliability tests show that these multiple items, which were based on items used in previous research, can be measured in a reliable manner. At the same time, the results of an exploratory factor analysis indicate that the IASB qualitative characteristics cannot be measured separately when the 33-item index is applied. At an aggregate level, the results of paired-sample *t*-tests reveal that UK reports score on average higher than US 10-K reports, which suggests that the overall quality of UK reports is better. The findings of this study add to the existing literature on the empirical evaluation of the effects of international accounting standards, showing that, as compared with 10-K reports, UK annual reports provide more information on topics such as corporate social responsibility (CSR), corporate governance, and annual bonus schemes. On the other hand, US reports outperform UK reports with respect to the content of fair value information, cash flow statements, off-balance financing, and audit reporting.

Keywords: financial reporting quality, decision usefulness assessment and evaluation, conceptual framework (CF), qualitative characteristics, conceptually-based measurement tool

Introduction

The primary objective of financial reporting is to provide high-quality information on reporting entities, which can be used for economic decision-making (Financial Accounting Standards Board [FASB], 1999, 2010; International Accounting Standards Board [IASB], 2010). Providing such high-quality information is important, because it can positively influence present and potential capital providers and other stakeholders when making investments, credit decisions, and allocating resources that may enhance overall capital market efficiency

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(IASB, 2008; 2010). Although both the FASB and the IASB stress the importance of high-quality financial reports, often major methodological drawbacks arise when it comes to assessing and evaluating the decision usefulness of financial reports. Indeed, the quality of financial reports and the decision usefulness of the information they offer are complex and multi-dimensional constructs, which cannot be observed directly (Barth, Landsman, & Lang, 2008). Moreover, the outcome of any measurement relies heavily on individual preferences and the perception of a myriad of constituents, which might be decision-context-specific in themselves (Dechow & Dichev, 2002; Schipper & Vincent, 2003; Botosan, 2004; Daske & Gebhardt, 2006; Dechow, Ge, & Schrand, 2010; Gassen & Schwedler, 2010).

Lacking a well-developed theory about the complex nature of financial reporting quality, most empirical studies aimed at assessing information quality use quantitative measures that focus on specific attributes of financial reporting information, examples of such factors are earnings quality and value relevance proxies (Barth, Beaver, & Landsman, 2001; Barth et al., 2008; Dechow et al., 2010; Mohammady, 2011). However, financial reporting quality is a broader, more multidimensional concept than just the quality of earnings deduced from financial statements or the associations between accounting-based and market-based attributes (e.g., Krishnan & Parsons, 2008; Burgstahler, Hail, & Leuz, 2006; Healy & Wahlen, 1999). In practice, different dimensions of information have to be assessed simultaneously to come to a proper evaluation of the decision usefulness of financial reporting information. Such an evaluation will have to be based on financial and non-financial information, as well as mandatory and voluntary disclosures included in a corporate report.

To be able to assess and evaluate the quality of financial reporting information, both the IASB (2010) and the FASB (2008a; 2008b; 2010) explicitly mention the desirability of constructing a comprehensive measurement tool that comprises all dimensions of decision usefulness. The conceptual framework (CF) for international financial reporting (IASB, 2010) provides a conceptual basis for selecting the information characteristics which should be included in such a quality index. That is, the CF states that the degree to which financial reporting information is useful depends on its qualitative characteristics. Fundamental and enhancing qualitative characteristics are underlying attributes of information, which contribute to its decision usefulness. "For financial information to be useful, it must be relevant and faithfully represent what it purports to represent" (IASB, 2010, A33). The enhancing qualitative characteristics of understandability, comparability, verifiability, and timeliness are complementary to the fundamental characteristics, and distinguish more useful from less useful information. As an additional point to consider, providing decision useful information is limited by one pervasive constraint: the costs of reporting information must be justified by its benefits (IASB, 2010).

The aim of this exploratory study is to assess the extent to which differences can be said to exist between International Financial Reporting Standards (IFRS) and United States Generally Accepted Accounting Principles (US GAAP)-based financial reports in meeting the criteria for decision usefulness as defined by the CF (IASB, 2010). In order to do so, the authors construct a 33-item quality index, which is conceptually based on the CF guidelines for assessing decision usefulness in terms of the fundamental and enhancing characteristics. This quality index aims to contribute to evaluating the different dimensions of reporting information in a comprehensive manner, using financial and non-financial as well as mandatory and voluntary disclosures in firms' financial reports.

To ensure the construct validity of this quality index, the authors employ multiple measurement items, which are all based on items used in previous research. To test for reliability, the authors use a matched sample design, including 70 UK annual reports and 70 US 10-K reports for 2010. As the results of test-retest and

inter-rater reliability tests will show, consistent measurement scores are found for all 33 items, suggesting a reliable quality assessment. However, the results of an exploratory factor analysis also indicate that qualitative characteristics cannot be measured separately when the 33-item quality index is used. These findings imply that it is difficult to construct a quality index for decision usefulness by applying the distinct criteria of relevance, faithful representation, understandability, comparability, verifiability, and timeliness. At an aggregate level, the results of paired-sample *t*-tests reveal that the UK reports included in the sample, on average, score higher than the US 10-K reports, which suggests that the overall quality of the UK annual reports is better. UK reports render more information on topics such as corporate social responsibility (CSR), corporate governance, and annual bonus schemes, resulting in higher disclosure scores on the quality index. US companies often present such information in separate reports, which were not included in this analysis. On the other hand, the US 10-K reports outperform the UK reports with respect to the content of fair value, cash flow statements, off-balance financing, and audit reporting. Essentially, the results suggest that UK reports are more comprehensive and integrated and that the inclusion of additional items in the 10-K format might be helpful to investors and creditors, so as to better fulfil their information needs.

This study contributes to the existing literature in two main respects. First, only a few studies have developed conceptually-based measurement tools for a comprehensive assessment of the quality of financial reports (e.g., McDaniel, Martin, & Maines, 2002; Jonas & Blanchet, 2000). Moreover, none of these studies presents an empirical assessment of the quality of financial reports in terms of the fundamental and enhancing qualitative characteristics defined by the CF (IASB, 2010). This exploratory analysis presents a first attempt at describing the empirical linkages between multiple measures of financial reporting quality and the underlying qualitative characteristics of the decision usefulness of information. The findings of this study extend the literature on comprehensively assessing the decision usefulness of financial reports by empirically testing the conceptually-based financial reporting quality index.

Second, it complements a growing body of literature that evaluates the effects of accounting standards from an international perspective (Daske, Hail, Leuz, & Verdi, 2008; Barth et al., 2008; Gordon, Jorgensen, & Linthicum, 2010; Chen, Tang, Jiang, & Lin, 2010; De Franco, Kothari, & Verdi, 2011; DeFond, Hu, Hung, & Li, 2011; Barth, Landsman, Landsman, & Williams, 2012). The authors add to such research by investigating the quality differences between IFRS and US GAAP-based financial reports in a comprehensive manner, using financial and non-financial as well as mandatory and voluntary disclosures to assess the decision usefulness of financial reports. It has to be added, however, that variations in financial reporting quality may also be caused by other features of the reporting system than accounting standards (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998, 2000; Barth et al., 2008; Holthausen, 2009). Likewise, differences in firms' incentives and the economic environment may play a role (Soderstrom & Sun, 2007; Chen et al., 2010; Lopes, António, Cerqueira, & Brandão, 2010; Narktabtee & Patpanichchot, 2011). For all such reasons, it remains unsure whether the quality differences found can be attributed solely to differences in accounting standards.

The remainder of this paper is organized as follows. First, the authors give a review of the literature on financial reporting quality assessment tools. Next, the authors develop a comprehensive measurement tool: the 33 item-index mentioned earlier. This is followed by a description of the data. The authors then give an assessment and evaluation of differences in reporting quality between IFRS and US GAAP-based financial reports by using the quality index. In the final section, the authors present conclusions and discuss the implications of this study.

Literature Overview of Financial Reporting Quality Measurement Methods

Assessing the decision usefulness of financial reports is far from a straightforward procedure. The quality of financial reports cannot be observed directly and depends on the perceptions of individual users, which might be context-specific. The resulting methodological uncertainty is reflected in the fact that, over the years, various types of measurement methods have been developed to assess and evaluate the quality of financial reporting (e.g., Verrecchia, 2001; Healy & Palepu, 2001). The methods most often used in previous research are capital market-based studies in accounting and studies on earnings management and earnings quality (e.g., Healy & Wahlen, 1999; Dechow, Sloan, & Sweeney, 1995; Kothari, 2001; Barth et al., 2008; Wu, 2009; Dechow et al., 2010; Armstrong, Barth, Jagolinzer, & Riedl, 2010; Ogneva, 2010; Mohammady, 2011). These approaches examine the decision usefulness of the information given in financial reports by assessing the relations between accounting-based and market-based attributes. A main advantage of such quality assessment methods is that the quality metrics are generally reliable. Quality proxies can be assessed and replicated by using publicly available financial information from annual reports and stock markets (Healy & Wahlen, 1999; Dechow et al., 1995). A major drawback of these methods, however, is their lack of validity, as they provide only partial and indirect proxies for decision usefulness. In addition, non-financial information is excluded, which means that a truly comprehensive assessment is not made (Healy & Wahlen, 1999). Moreover, the operational difficulties involved in applying these methods can reduce validity. For instance, when assessing earnings management, it is often difficult to distinguish empirically between discretionary and non-discretionary accruals (Dechow et al., 2010; Healy & Wahlen, 1999), and the models have a very limited explanatory power. With regard to value relevance models, the stock market may not as efficient as assumed (Daniel, Hirshleifer, & Subrahmanyam, 1998). As a consequence, stock prices do not always represent the market value of firms accurately or fail to react timely to unexpected firm disclosure (Kothari, 2001; Nichols & Wahlen, 2004).

Another group of quality measurement methods focuses on the quality of specific financial and non-financial information elements disclosed in annual reports. Examples of this type of research are studies that examine the association between the decision usefulness of financial reporting information and the use of fair value (Hirst, Hopkins, & Wahlen, 2004; Koonce, Nelson, & Shakespeare, 2011), between the quality of internal control and the risk of disclosing information (Dobler, Lajili, & Zéghal, 2012; Beretta & Bozzolan, 2004), and auditor's reports (Gray, Turner, Coram, & Mock, 2011; Gaeremynck & Willekens, 2003). Needless to say, such methods do not by definition give a comprehensive assessment of financial reporting quality.

Finally, there are some studies that aim to give a comprehensive measurement of decision usefulness by assessing the quality of the different dimensions of reporting information simultaneously, including both financial and non-financial information. To give an example, Jonas and Blanchet (2000), Lee, Strong, Kahn, and Wang (2002), and McDaniel et al. (2002) have developed questions on distinct qualitative characteristics in order to assess information quality. Although such research has shown that qualitative characteristics can indeed be operationalized, the measures used are based on the older frameworks of the FASB (1980) and the IASB (1989) rather than the more recent CF (IASB, 2010), and certain inconsistencies with the CF may result. In addition, the study of Jonas and Blanchet (2000) lacks empirical application. As a last point to mention, some of the operational definitions used are incomplete and focus solely on relevance and faithful representation (e.g., McDaniel et al., 2002). The enhancing qualitative characteristics of understandability, comparability, and timeliness are usually

perceived to be less important than fundamental characteristics. Even so, it does remain important to include such items in the analysis, so as to arrive at a truly comprehensive assessment.

This study makes a significant contribution to existing research by developing and empirically testing a comprehensive and multifaceted quality assessment tool for the decision usefulness of financial and non-financial reporting information in annual reports in terms of both the fundamental and the enhancing qualitative characteristics that have been specified by the CF (IASB, 2010).

A Measurement Tool Based on Qualitative Characteristics

In order to construct a comprehensive measurement tool for decision usefulness that covers the entire range of qualitative characteristics specified by the CF (IASB, 2010), the authors first explored whether it was possible to measure each fundamental and enhancing qualitative characteristic separately. To establish whether this could be done, the authors used the multiple items that have been applied in previous studies, gathering together a set of existing measurement tools (e.g., Schipper & Vincent, 2003; Nichols & Wahlen, 2004; Jonas & Blanchet, 2000; Gafarov, 2009). An advantage of using these items was that it helped the authors to ensure sufficient construct validity of the final measurement tool. The preliminary list drawn up was subsequently screened and refined by three practicing auditors and one financial manager with international accounting experience, again with an eye to enhancing validity. The final list arrived at comprised 33 measurement items: 13 items which were related to relevance, seven items related to faithful representation, six items related to understandability, six to comparability, and one item representing timeliness. All items used 5-point Likert-type scales, with the exception of timeliness. Appendix A provides an overview of the measurement items used to operationalize the CF fundamental and enhancing qualitative characteristics. Below, the authors discuss the various qualitative characteristics studied, as well as a number of related measurement items¹.

Relevance

Relevance is the potential that information has of making a difference in the decisions taken by users of that information (IASB, 2010). “Financial information is capable of making a difference in the decisions if it has predictive value, confirmatory value, or both” (IASB, 2010, A33). Drawing on the existing literature, the authors operationalized relevance by using 13 items that were indicative of the predictive and confirmatory value of information.

Information has predictive value if it explicitly refers to a firm’s ability to generate future cash flows: “Financial information has predictive value if it can be used as an input to processes employed by users to predict future outcomes” (IASB, 2010, A34). To ensure adequate comprehensiveness of this measurement tool, the authors decided to take a slightly broader view of predictive value, including both financial and non-financial information. To operationalize the predictive value of annual reports, several constructs were applied. The first item used (R1) reflects whether a company gives fair value information (e.g., Schipper & Vincent, 2003). Items R2 and R3 evaluate whether a company provides financial and non-financial information on future opportunities and risks (e.g., Nichols & Wahlen, 2004). The measurement tool also includes an assessment of forward-looking information showing information on future developments (R4) (Bartov & Mohanram, 2004). Deegan (2002) and Orij (2010) emphasised the importance of CSR (R5). Maines and

¹ Although these measurement items were presented as specifically related to one of the listed qualitative characteristics, the authors are well aware of the fact that different items may contribute to several characteristics. In Section 5, the authors discuss the results of an exploratory factor analysis, which was carried out to study this aspect of multi-dimensionality.

Wahlen (2006) stressed the importance of cash flow information that has a predictive value (R9).

Information has confirmatory value if it confirms or alters previously formed expectations (IASB, 2010). Items R5-R7 reflect both the predictive ability and confirmatory value of annual reports, indicating extraordinary gains and losses (R6), information on personnel policies (R7), as well as information on concern divisions (R8)².

Finally, the measurement tool incorporates items which are deemed relevant to the decision needs of capital providers and other stakeholders, making an assessment of information on intangible assets (R10) (e.g., Camfferman & Cooke, 2002), off-balance activities (R11) (e.g., Hoogendoorn & Mertens, 2001), financial structure (R12) (Vander Bauwhede, 2001), and information on a company's going-concern position (R13) (e.g., Gafarov, 2009).

Faithful Representation

To give a faithful representation of economic phenomena, annual reports must be complete, neutral, and free from material error (IASB, 2010). Consistent with the existing literature, faithful representation was measured by using seven items pertaining to neutrality, completeness, lack of material error, and verifiability³ (Dechow, Sloan, & Sweeney, 1996; McMullen, 1996; Beasley, 1996; Rezaee, 2003; Cohen, Krishnamorthy, & Wright, 2004; Sloan, 2001; Jonas & Blanchet, 2000; Maines & Wahlen, 2006; Gaeremynck & Willekens, 2003; Kim, Simunic, Stein, & Yi, 2011).

The first two proxies included refer to the issue of "verifiability", stressing the importance of being able to understand the assumptions and estimations made in the report (F1) as well as the accounting principles which have been applied (F2) (Jonas & Blanchet, 2000). The third item reflects the type of auditors' report (F3) (e.g., Kim et al., 2011). Two other items measure corporate governance (F4 and F5) (e.g., Jonas & Blanchet, 2000). The final set of items describe the inclusion of bonus information (F7) (e.g., Burgstahler et al., 2006) and the disclosure of both positive and negative developments (F6) (e.g., Cohen et al., 2004)⁴.

Understandability

Information can be better understood if it is classified, characterized, and presented clearly and concisely. Information with such qualities enables a user's comprehension of its exact meaning (IASB, 2008). The authors measured understandability by means of six items that emphasise the transparency and clarity of the

² Please note that the CF also includes materiality as an entity-specific aspect of relevance. "Information is material if omitting it or misstating it could influence decisions that users make on the basis of financial information about a specific reporting entity" (IASB, 2010, A34). Materiality is "based on the nature or magnitude, or both, of the items to which the information related in the context of an individual entity's report" (IASB, 2010, A34). Consequently, the IASB also argues that it is impossible to specify a uniform quantitative threshold. For this reason, the authors omitted this construct from this study.

³ Note that the CF (IASB, 2010) distinguishes verifiability as a separate enhancing qualitative characteristic. "Verifiability helps to assure users that information faithfully represents the economic phenomena it purports to represent. Verifiability means that different knowledgeable and independent observers could reach consensus, although not necessarily complete agreement, that a particular depiction is a faithful representation" (IASB, 2010, A36). Since the measurement tool of this paper aims to assess all relevant qualitative characteristics, and verifiability refers directly to the assessment of faithful representation, verifiability is included as a sub-notion of this fundamental qualitative characteristic. This approach is supported by the preliminary views of the IASB on an improved conceptual framework for financial reporting (IASB, 2006) and the concept statements of the FASB (1980), which both include verifiability as a sub-notion of faithful representation.

⁴ Jonas and Blanchet (2000) included an additional question on faithful representation, which refers to the intentions of a company's managerial board: "To what extent does the company enter into (or modify) transactions in order to achieve a specific accounting result?" (Jonas & Blanchet, 2000, p. 362). As Botosan (2004) stated, it is difficult to ascertain a faithful representation by this means, because insider information is lacking. For this reason, the authors did not include this question in the measurement tool. However, the item referring to corporate governance provides some insight into the efforts made by the board to ensure truthful accounting procedures and results.

information presented in annual reports (Jonas & Blanchet, 2000; Iu & Clowes, 2004; Courtis, 2005; IASB, 2008). First of all, classified and characterized information refers to information that is well-organised and clearly presented (U1). The addition of tables or graphs can also improve understandability, clarifying relationships and promoting conciseness (U2) (IASB, 2006; Jonas & Blanchet, 2000). The use of technical jargon, on the other hand, is likely to affect understandability in a negative way (U3) (Iu & Clowes, 2004). Sometimes, however, the use of technical jargon, such as industry-specific terminology, is unavoidable, in which case an explanation in the form of a glossary can aid understandability (U4) (e.g., Jonas & Blanchet, 2000). The conceptually-based measurement tool in this study also reflects whether the annual report gives information on a company's mission and strategy (U5) (e.g., Men & Wang, 2008). Lastly, it includes some questions on understandability in general (U6) (Courtis, 2005).

Comparability

Comparability enables users to identify the similarities and differences between two sets of economic phenomena (IASB, 2010). The quality of comparability is measured by means of six items relating to a consistent application of accounting policies and procedures and intercompany comparability (Jonas & Blanchet, 2000; Schipper & Vincent, 2003; Beuselinck & Manigart, 2007; Cole, Branson, & Breesch, 2009, 2012). "Consistency refers to the use of the same accounting policies and procedures, either from period to period within an entity or in a single period across entities" (IASB, 2010, A36). In concordance with this, the first two items reflect the disclosure of accounting policy changes (C1) and changed estimates (C2) (Jonas & Blanchet, 2000; Schipper & Vincent, 2003). The comparability of data on earnings is also important for the evaluation of a firm's performance over time (IASB, 2006; Cole et al., 2009, 2012). If a company changes its estimates, judgments, or accounting policies, it can adjust the earnings figures of previous years to illustrate the impact of the change on past results (C3).

In addition to the consistency of the use of accounting procedures by a single company, comparability also refers to how easily various companies can be compared with each other (IASB, 2010). Inter-company comparability is improved if ratios and index numbers are included in a report (C4-5) (e.g., Cleary, 1999). Finally, a company may decide to include benchmarked information in its financial report (C6): This increases comparability as well (e.g., De Franco et al., 2011).

Timeliness

The final enhancing qualitative characteristic specified by the CF is timeliness. Timeliness means that information becomes available to decision-makers before it loses its capacity of influencing decisions (IASB, 2010). Timeliness refers to the amount of time it takes to make information known to others, and it is related to decision usefulness in general (IASB, 2010). Consistent with Leventis and Weetman (2004), the authors measured timeliness by using the natural logarithm of the number of days between the year's end date and the date of the auditor's report. Based on the resulting figure, every company received a score between one and five.

Data

To assess and evaluate the quality of financial reports produced in the two globally leading accounting regimes, namely, IFRS and US GAAP, the authors used a sample of 70 annual reports of companies based in the UK and matched these reports to 70 US 10-K reports for 2010 based on company size (revenue) and industry (the two-digit industry Standard Industrial Classification (SIC) code). All companies included in the sample were publicly listed on the US and UK stock markets in 2010.

The authors' choice to select reports of companies listed in the UK and the US was mainly inspired by the fact that both countries have a strongly developed legal system and enforcement environment (e.g., La Porta et al., 1998, 2000; Ball, Kothari, & Robin, 2000; Leuz, Nanda, & Wysocki, 2003; Nobes & Parker, 2006). Generally speaking, financial reports of the IFRS-type are considered more principles-based than GAAP-type reports, the latter is often said to be rules-based (Schipper, 2005). A second consideration was that both the UK and the US have a considerable number of listed firms, which positively affected the matched sample selection (Schipper, 2005). Companies complying with IFRS rules (the UK firms) publish an annual commercial report. US GAAP-based financial reports are published in two different formats: format 10-K is applied for domestic-listed companies and format 20-F for foreign private issuers or cross-listed companies (Securities and Exchange Commission [SEC], 2008). In this study, the authors only included 10-K annual reports from domestic firms, so as to eliminate cultural and reporting differences. The exclusion of financial reports of foreign and cross-listed firms reduces the bias in the sample.

Table 1 presents a set of descriptive statistics. Panel A shows the size distribution of the sampled firms. Panel B presents the distribution according to size and industry. Panel B shows no significant differences among industry groups.

Table 1

Summary Statistics of Sample Firms

| Panel A: Firms across country | | | | | | |
|--|-------------------------|----------|---------------|----------------|----------|----------|
| Country | | <i>N</i> | Mean revenue* | Std. deviation | Minimum* | Maximum* |
| UK | | 70 | 27,985.10 | 46,854.83 | 69 | 285,129 |
| US | | 70 | 25,426.69 | 44,131.05 | 49 | 310,568 |
| | Difference | | 2,558.41 | | | |
| | (<i>t</i> -statistic) | | (0.955) | | | |
| Panel B: Firms across country and industry | | | | | | |
| Country | Industry | <i>N</i> | Mean revenue* | Std. deviation | Minimum* | Maximum* |
| UK | Manufacturing and trade | 25 | 22,752.33 | 21,762.61 | 1,662 | 88,150 |
| US | | 25 | 27,706.56 | 25,037.28 | 1,703 | 107,808 |
| | Difference | | -4,954.23 | | | |
| | (<i>t</i> -statistic) | | (-1.059) | | | |
| UK | Oil, gas, and chemicals | 11 | 61,533.60 | 102,172.83 | 442 | 285,129 |
| US | | 11 | 53,199.73 | 98,773.88 | 361 | 310,568 |
| | Difference | | 8,333.87 | | | |
| | (<i>t</i> -statistic) | | (0.979) | | | |
| UK | Services | 23 | 8,125.83 | 10,113.21 | 69 | 43,026 |
| US | | 23 | 9,720.61 | 14,087.91 | 49 | 62,080 |
| | Difference | | -1,594.77 | | | |
| | (<i>t</i> -statistic) | | (-1.076) | | | |
| UK | Financial firms | 9 | 28,671.89 | 20,657.96 | 1,490 | 78,631 |
| US | | 9 | 25,083.56 | 21,920.36 | 7,687 | 80,285 |
| | Difference | | 3,588.33 | | | |
| | (<i>t</i> -statistic) | | (1.513) | | | |
| UK | Other | 3 | 18,271.40 | 24,101.27 | 2,664 | 46,030 |
| US | | 3 | 26,036.00 | 24,698.44 | 671 | 50,009 |
| | Difference | | -7,764.60 | | | |
| | (<i>t</i> -statistic) | | (-1.111) | | | |

Note. * Amounts in millions (US dollars).

Quality Assessment Based on the 33-Item Index

The authors assessed the quality of the financial reports studied with the 33-item index in three different steps. First of all, the authors used a content analysis to score all items, using their pre-defined measurement scales (see Appendix A). To control for subjectivity in the interpretation of the annual reports, two independent raters with an international accounting and auditing background assessed the quantitative and qualitative information in both the UK annual reports and the US 10-K reports, to determine the items' measurement scores. To ensure the reliability and consistency of the scores of individual raters and also between raters, the authors looked at the test-retest and inter-rater reliability of their scores. In order to test individual rater consistency, the raters were asked to assess each financial report twice. The second assessment was made after all annual reports had been rated in a first round, rather than after each initial separate report assessment, so as to reduce the chance of the first scoring influencing the second evaluation. The results of the paired-samples *t*-tests showed no significant differences, suggesting that the raters scored the annual reports in a consistent manner. To test for inter-rater reliability, the authors used the inter-rater reliability coefficient Krippendorff's (2004) alpha⁵. The value for Krippendorff's alpha was 0.85, which is above the required 0.70. This indicates that the quality scores were reliable, and coders agreed on the quality estimations made.

In the second step, the authors calculated the indexes for the fundamental and enhancing qualitative characteristics of each individual financial report. To compute these indices, the scores of the individual items per qualitative characteristic were aggregated and were subsequently divided by the maximum number of items in the relevant category. This resulted in a set of relative scores ranging from zero to one.

It has to be noted that despite the fact that all measurement items described here pertain to one qualitative characteristic, the various items may well measure aspects of several characteristics at once. To identify whether the correlations among subsets of measurement items can be ascribed to their relation with other qualitative characteristics, the authors conducted an exploratory factor analysis, using principal-axis extraction (with the extraction criterion Eigenvalue > 1.00). The factor matrices were rotated using oblique rotation (direct oblimin), because the different factors were expected to show an inter-correlation. Table 2 reports the results of the direct oblimin rotated factor matrix, giving all factor loadings > 0.6. As the results in Table 2 reveal, the factors do not show a 1-on-1 correspondence with the qualitative characteristics they were conceptually based upon, and they are difficult to interpret. These findings suggest that the qualitative characteristics sought after cannot be measured separately and that items do indeed contribute to more than one characteristic. As a consequence, the authors were unable to assess quality scores for the individual qualitative characteristics. The implications of these results will be discussed below.

In the third step, a composite score of total quality was computed for each financial report. This comprehensive quality score was calculated as a mean score, by dividing the sum score on all individual items by 33. An issue of some importance was that of weighing the measurement items. As separate scores for the individual qualitative characteristics could not be measured and in line with previous research (Cooke, 1989, 1992; Camfferman & Cooke, 2002), the authors assumed that all measurement items were of equal value.

⁵ The inter-rater reliability coefficient Krippendorff's alpha comes from content analysis. It makes use of ordinal and continuous data and small sample sizes. The coefficient measures the agreement among raters by comparing the scores of different raters with each other (Krippendorff, 2004).

Table 2
Factor Analyses of Qualitative Characteristics

| Measurement item ^a | Factor matrix ^b | | |
|---------------------------------|----------------------------|-------|-------|
| | I | II | III |
| R1 | | | |
| R2 | | | |
| R3 | | | |
| R4 | 0.828 | | |
| R5 | | | |
| R6 | | | |
| R7 | 0.622 | | |
| R8 | | | |
| R9 | | | |
| R10 | | | |
| R11 | | | |
| R12 | | | |
| R13 | 0.707 | | |
| F1 | | | |
| F2 | | | |
| F3 | -0.875 | | |
| F4 | 0.883 | | |
| F5 | | 0.674 | |
| F6 | 0.871 | | |
| F7 | | | |
| U1 | | 0.608 | |
| U2 | 0.760 | | |
| U3 | | | 0.663 |
| U4 | | | |
| U5 | | | |
| U6 | | | 0.707 |
| C1 | | | |
| C2 | | | |
| C3 | | | |
| C4 | | | |
| C5 | | | |
| C6 | | | |
| T1 | | | |
| Total explained variance: 44.5% | 20.2 | 15.8 | 8.5 |

Notes. ^a: For explanation of the measurement items, see Appendix A. ^b: Roman numerals refer to the order in which the factors appeared in the oblique rotation (direct oblimin) rotated solution using principal-axis rotation factoring. Factor loadings less than 0.60 are not reported.

Table 3 shows the average disclosure scores on the individual measurement items and the composite scores for total financial reporting quality of the UK and the US 10-K financial reports. The differences between the mean scores of UK and US reports are given as well. The final column shows whether there are any significant differences in quality scores between UK and US reports, listing the results of the paired-samples *t*-test for all measurement items and the total quality level⁶.

⁶ To circumvent the distributional assumptions of the parametric paired-sample *t*-test (or matched-pair sample *t*-test), the non-parametric Wilcoxon matched-pairs signed ranks test was also applied. The results obtained in the signed ranks test were qualitatively similar and did not alter our conclusions.

Table 3

Paired-Samples t-tests on Quality Scores per Measured Item and the Total Level

| Measurement item ^a | UK mean scores (Std. dev.) | US mean scores (Std. dev.) | UK minus US difference between mean scores (Std. dev.) | t-statistics |
|-------------------------------|----------------------------|----------------------------|--|--------------|
| R1 | 3.03 (0.696) | 3.37 (0.514) | -0.34 (0.79) | -3.60** |
| R2 | 3.54 (0.753) | 3.37 (0.681) | 0.17 (1.08) | 1.32 |
| R3 | 3.44 (0.806) | 3.73 (1.183) | -0.30 (1.50) | -1.67 |
| R4 | 2.93 (0.867) | 2.70 (0.852) | 0.23 (1.43) | 1.33 |
| R5 | 3.73 (1.095) | 1.63 (0.960) | 2.10 (1.52) | 11.61** |
| R6 | 1.72 (1.185) | 1.32 (0.824) | 0.39 (1.43) | 2.33** |
| R7 | 2.85 (0.966) | 2.04 (0.461) | 0.80 (1.13) | 5.99** |
| R8 | 4.03 (0.910) | 3.65 (0.943) | 0.38 (1.16) | 2.75** |
| R9 | 2.97 (1.134) | 3.59 (0.994) | -0.62 (1.63) | -3.20** |
| R10 | 3.63 (1.124) | 3.11 (1.076) | 0.52 (1.43) | 3.06** |
| R11 | 3.23 (1.098) | 3.83 (1.014) | -0.61 (1.40) | -3.65** |
| R12 | 2.90 (0.958) | 4.01 (0.784) | -1.11 (1.21) | -7.73** |
| R13 | 2.66 (0.774) | 1.11 (0.464) | 1.55 (0.91) | 14.39** |
| F1 | 3.54 (0.876) | 3.46 (0.908) | 0.07 (1.16) | 0.51 |
| F2 | 3.65 (0.847) | 4.11 (0.766) | -0.46 (1.12) | -3.50** |
| F3 | 4.06 (0.232) | 4.97 (0.167) | -0.92 (0.28) | -27.54** |
| F4 | 3.96 (0.933) | 1.89 (0.887) | 2.07 (1.30) | 13.40** |
| F5 | 2.83 (0.845) | 1.18 (0.457) | 1.65 (0.94) | 14.73** |
| F6 | 3.45 (0.842) | 3.62 (0.900) | -0.17 (1.24) | -1.15* |
| F7 | 4.54 (0.998) | 2.10 (0.848) | 2.44 (1.18) | 17.40** |
| U1 | 3.70 (0.684) | 3.79 (0.653) | -0.08 (0.94) | -0.76 |
| U2 | 4.38 (1.113) | 2.63 (0.989) | 1.75 (1.39) | 10.58** |
| U3 | 3.49 (0.715) | 3.45 (0.580) | 0.04 (0.75) | 0.48 |
| U4 | 2.24 (1.488) | 1.58 (1.327) | 0.66 (1.88) | 2.96** |
| U5 | 3.48 (1.026) | 2.86 (1.086) | 0.62 (1.63) | 3.20** |
| U6 | 3.82 (0.617) | 3.73 (0.654) | 0.08 (0.69) | 1.03 |
| C1 | 3.04 (0.963) | 3.08 (0.770) | -0.04 (1.15) | -0.31 |
| C2 | 2.27 (1.253) | 2.41 (1.077) | -0.14 (1.54) | -0.77 |
| C3 | 4.38 (1.126) | 4.82 (0.617) | -0.44 (1.33) | -2.77** |
| C4 | 3.77 (1.186) | 4.56 (0.906) | -0.79 (1.48) | -4.48** |
| C5 | 3.28 (0.848) | 3.56 (0.890) | -0.28 (1.15) | -2.07* |
| C6 | 2.35 (1.030) | 2.04 (0.726) | 0.31 (1.34) | 1.95 |
| T1 | 2.35 (0.481) | 2.32 (0.471) | 0.03 (0.70) | 0.34 |
| Total quality mean score | 3.18 (0.350) | 2.94 (0.280) | 0.24 (0.48) | 4.25** |

Notes. ** and *: Significant at the levels of 0.01 and 0.05 respectively (2-tailed). ^a: For explanation of the measurement items, see Appendix A.

As can be seen in Table 3, for 11 items, the quality scores for the UK annual reports were on average significantly higher than the corresponding scores for the US 10-K reports. These particular items mainly pertain to CSR (R5), intangible assets (R10), going-concern information (R13), corporate governance (F4 and F5), bonus information on the board of directors (F7), and the inclusion of graphs and tables (U2). Regarding the magnitude of the differences between the mean scores at the item level, the results show that the mean difference between the UK and the US scores exceeded 1.5 for the items R5, R13, F4, F5, F7, and U2.

However, for the US 10-K reports, the mean scores on items R5, R13, F4, and F5 were less than 2.0, suggesting that there are hardly any US firms which include this type of information. On the other hand, the US reports significantly outperform the UK reports on 10 other items, such as index numbers (C4), type of auditor's report (F3), cash flow information (R9), off-balance activities (R11), the disclosure of information on financial structure (R12), and the inclusion of fair value information (R1). As these findings suggest, despite the fact that both the IFRS and the US GAAP increasingly require fair value measurement, the application of fair value measurement is still lagging behind in UK IFRS reports. On 12 other items, the authors did not find a significant average quality difference. All in all, the results of this study paint a mixed picture. As the findings suggest, with respect to some information dimensions, the quality of UK annual reports is higher than US 10-K reports, whilst in other respects, the US 10-K reports can be said to make a better contribution to decision usefulness.

At an aggregate level, it can be seen that the average total quality disclosure score is 3.18 for the UK financial reports, whereas the US 10-K reports have an average disclosure score of 2.94. The mean difference of 0.24 among these numbers is significant at the level of 0.01^{7,8}. This result suggests that UK annual reports seem to be more comprehensive than US 10-K reports, providing more decision useful information. However, the results found might be mainly due to the fact that US companies often have separate reports for CSR and corporate governance. In the US GAAP regime, mandatory disclosure in 10-K reports on topics such as corporate governance and social reporting is limited compared with the requirements set by the IFRS. On the other hand, one might argue that having to combine different, distinct reports creates complexity and may prevent external stakeholders from reaching a situation of optimal decision-making. Indeed, the relatively more integrated UK reports reflect that more effort is being made to help investors and other stakeholders to make allocation decisions about resources, i.e., higher decision usefulness.

Conclusions and Discussion

The aim of this exploratory study was to assess the extent to which quality differences can be said to exist between IFRS and US GAAP-based financial reports in conceptually and empirically meeting the fundamental and enhancing qualitative characteristics for decision usefulness specified by the CF of the IASB (2010). In order to study this, the authors constructed a 33-item quality index, which was conceptually based on the CF. To ensure construct validity, the multiple measurement items were based on those used in previous research. Applying a matched sample design, which comprised 70 UK annual reports and 70 US 10-K reports for 2010, the authors carried out a number of reliability tests. The results showed that the reliability and consistency of the measurements applied are fairly high, suggesting that the tool developed is suitable for assessing the quality of financial reports. However, as the subsequent exploratory factor analysis showed, qualitative characteristics cannot be measured separately when a 33-item quality index is used, because different items inter-correlate

⁷ In order to strengthen the construct validity and reliability of the measurements, the authors compared the results with those of several other empirical studies on the differences between IFRS and US GAAP-based financial reports (e.g., Prather-Kinsey & Shelton, 2005; Barth et al., 2008; Gordon et al., 2010; De Franco et al., 2011; DeFond et al., 2011; Chen et al., 2010). However, fundamental differences in the quality measures applied made this comparison less than meaningful. To the best of the authors' knowledge, this study is the first to use a conceptually-based quality index to assess the decision usefulness of financial reports, considering both financial and non-financial information and mandatory and voluntary forms of information disclosure.

⁸ The authors also ran tests without including financial institutions, for the reason that the financial information reported by such firms might well bias results because of the unique nature of financial reporting in this sector. The authors did not find any qualitative differences though, which suggests that the results are robust.

with each other and relate to more than one characteristic. Indeed, the findings of this paper imply that individual measurement of either fundamental or enhancing characteristics is difficult, for the reason that there are hardly any valid and reliable measures for financial reporting quality that are exclusively linked to a certain qualitative characteristic. This observation is consistent with previous findings which suggest that financial statement users do not regard relevance and faithful representation as independent constructs (Kadous, Koonce, & Thayer, 2012; Gassen & Schwedler, 2010).

With respect to the aggregate level, this study complements a growing body of literature that empirically evaluates the effects of accounting standards from an international perspective (Daske et al., 2008; Barth et al., 2008; Gordon et al., 2010; Chen et al., 2010; Rahman, Yammeeesri, & Hector Perera, 2010; De Franco et al., 2011; DeFond et al., 2011; Barth et al., 2012). As the paired-samples *t*-tests showed, UK reports score on average higher on the quality index than US 10-K reports do. These results suggest that the total quality of the more principles-based UK reports outperforms the rules-based US reports. Also, as compared with UK annual reports, US 10-K reports disclose limited information on topics such as CSR and corporate governance. On the other hand, US reports perform better with respect to the content of fair value, cash flow statements, and off-balance financing. Essentially, the results indicate that UK annual reports are more comprehensive and integrated and more decision useful for these reasons. The inclusion of additional requirements in the 10-K format might improve the comprehensiveness and decision usefulness of US financial reports for external stakeholders.

The findings of this study contribute to the understanding of conceptually-based financial reporting quality assessment by empirically testing the linkages between multiple measures of financial reporting quality and the underlying qualitative characteristics of the decision usefulness of information. In addition, the comprehensive quality index developed here might be of use to standard-setting bodies such as the IASB and FASB, to assess and evaluate the quality of financial reports, and to identify potential problems for future convergence (Trombetta, Wagenhofer, & Wysocki, 2012; Hail, Leuz, & Wysocki, 2010a, 2010b). It has to be kept in mind, though, that the quality differences found partly result from the interaction of accounting standards with other features of the financial reporting system, such as the interpretation of accounting standards, their legal enforcement, and litigation. In addition, differences in firms' incentives and the economic environment might cause variations in financial reporting quality (La Porta et al., 1998, 2000; Soderstrom & Sun, 2007; Barth et al., 2008; Holthausen, 2009; Chen et al., 2010). Although this research design includes features to mitigate these effects, it remains unsure whether the quality differences found can be attributed solely to differences in accounting standards.

This study, however, is subjected to several limitations. Two of these limitations relate to the validity and reliability of the 33-item quality index constructed. Validity could be further enhanced by investigating to what extent capital providers and other stakeholders perceive the different items included in the quality index as useful indicators for assessing the decision usefulness of financial reports. Weighing such relevant measurement items may add to the validity of the comprehensive quality index. In addition, comparing the results rendered by applying this index with the results of other quality assessment tools using a similar sample may help to improve validity and reliability. Another limitation was the use of cross-sectional data from financial reports from two accounting regimes for one year, which limits the generalizability of the findings. Further research, with larger samples of financial reports, in different countries, and for a wider range of years,

may also add to the reliability of results. Overall, the authors can conclude that more research is needed to improve conceptually-based financial reporting quality assessment, as this would help to identify the key information dimensions that make corporate reports useful for economic decision-making.

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Appendix A

Table A1

Overview of the Measurement Items Used to Operationalize the Fundamental and Enhancing Qualitative Characteristic (Including the Measurement Scales)

| Relevance | | | | |
|--------------|--|---|------------------|---|
| Question No. | Question | Operationalization | Concept | Literature |
| R1 | To what extent does the company use fair value instead of historical cost? | 1 = Only historical cost 2 = Mostly historical cost 3 = Balance fair value/historical cost 4 = Most fair value 5 = Only fair value | Predictive value | e.g., Schipper and Vincent (2003); McDaniel et al. (2002); Barth et al. (2001); Schipper (2003) |
| R2 | To what extent does the presence of non-financial information in terms of business opportunities and risks complement the financial information? | 1 = No non-financial information 2 = Limited non-financial information, not very useful for forming expectations 3 = Sufficient useful non-financial information 4 = Relatively much useful non-financial information, helpful for developing expectations 5 = Very extensive non-financial information presents additional information which helps developing expectations | Predictive value | e.g., Jonas and Blanchet (2000); Nichols and Wahlen (2004) |

(Table A1 continued)

| | | | | |
|-----|--|---|-----------------------------------|--|
| R3 | To what extent does the risk section provide good insights into the risk profile of the company? | 1 = No insights into risk profile 2 = Limited insights into risk profile 3 = Sufficient insights into risk profile 4 = Relatively much insights into risk profile 5 = Very extensive insights into risk profile | Predictive value | e.g., Jonas and Blanchet (2000); Nichols and Wahlen (2004) |
| R4 | To what extent does the annual report contain forward-looking information? | 1 = No forward-looking information 2 = Limited forward-looking information 3 = Sufficient forward-looking information 4 = Relatively much forward-looking information 5 = Very extensive forward-looking information | Predictive value | e.g., McDaniel et al. (2002); Jonas and Blanchet (2000); Bartov and Mohanram (2004) |
| R5 | To what extent does the annual report contain information on CSR? | 1 = No information on CSR 2 = Limited information on CSR 3 = Sufficient information on CSR 4 = Very much information on CSR 5 = Very extensive information on CSR | Predictive value | e.g., Deegan (2002); Orij (2010) |
| R6 | To what extent does the annual report contain a proper disclosure of the extraordinary gains and losses? | 1 = No proper disclosure 2 = Limited proper disclosure 3 = Sufficient proper disclosure 4 = Very much proper disclosure 5 = Very extensive proper disclosure | Predictive and confirmatory value | e.g., Hoogendoorn and Mertens (2001) |
| R7 | To what extent does the annual report contain information regarding personnel policies? | 1 = No information regarding personnel policies 2 = Limited information regarding personnel policies 3 = Sufficient information regarding personnel policies 4 = Very much information regarding personnel policies 5 = Very extensive information regarding personnel policies | Predictive and confirmatory value | e.g., Hoogendoorn and Mertens (2001) |
| R8 | To what extent does the annual report contain information concerning divisions? | 1 = No information concerning divisions 2 = Limited information concerning divisions 3 = Sufficient information concerning divisions 4 = Very much information concerning divisions 5 = Very extensive information concerning divisions | Predictive and confirmatory value | e.g., Hoogendoorn and Mertens (2001) |
| R9 | To what extent does the annual report contain an analysis concerning cash flows? | 1 = No analysis 2 = Limited analysis 3 = Sufficient analysis 4 = Very much analysis 5 = Very extensive analysis | Predictive value | e.g., Hoogendoorn and Mertens (2001); Maines and Wahlen (2006); Van der Meulen, Gaeremynck, and Willekens (2007) |
| R10 | To what extent are the intangible assets disclosed? | 1 = No disclosure 2 = Limited disclosure 3 = Sufficient disclosure 4 = Very much disclosure 5 = Very extensive disclosure | Predictive value | e.g., Camfferman and Cooke (2002) |

(Table A1 continued)

| R11 | To what extent are the “off-balance” activities disclosed? | 1 = No disclosure 2 = Limited disclosure 3 = Sufficient disclosure 4 = Very much disclosure 5 = Very extensive disclosure | Predictive value | e.g., Hoogendoorn and Mertens (2001) |
|-------------------------|---|---|--|---|
| R12 | To what extent is the financial structure disclosed? | 1 = No disclosure 2 = Limited disclosure 3 = Sufficient disclosure 4 = Very much disclosure 5 = Very extensive disclosure | Predictive and confirmatory value | e.g., Vander Bauwhede (2001) |
| R13 | To what extent does the annual report contain information concerning the companies’ going concern? | 1 = No information concerning going concern 2 = Limited information concerning going concern 3 = Sufficient information concerning going concern 4 = Very much information concerning going concern 5 = Very extensive information concerning going concern | Predictive value | e.g., Gafarov (2009); IASB (2008) |
| Faithful representation | | | | |
| Question No. | Question | Operationalization | Concept | Literature |
| F1 | To what extent are valid arguments provided to support the decision for certain assumptions and estimates in annual report? | 1 = No valid arguments 2 = Limited valid arguments 3 = Sufficient valid arguments 4 = Very much valid arguments 5 = Very extensive valid arguments | Verifiability | e.g., Jonas and Blanchet (2000); Maines and Wahlen (2006) |
| F2 | To what extent does the company base its choice for certain accounting principles on valid arguments? | 1 = No valid arguments 2 = Limited valid arguments 3 = Sufficient valid arguments 4 = Very much valid arguments 5 = Very extensive valid arguments | Verification | e.g., Jonas and Blanchet (2000); Maines and Wahlen (2006) |
| F3 | Which type of auditors’ report is included in the annual report? | 1 = Adverse opinion 2 = Disclaimer of opinion 3 = Qualified opinion 4 = Unqualified opinion: financial figures 5 = Unqualified opinion: financial figures + internal control | Free from material error, verification, neutrality, and completeness | e.g., Maines and Wahlen (2006); Gaeremynck and Willekens (2003); Kim et al. (2011); Gray et al. (2011) |
| F4 | To what extent does the company provide information on corporate governance? | 1 = No description of corporate governance 2 = Limited description of corporate governance 3 = Sufficient description of corporate governance 4 = Very much description of corporate governance 5 = Very extensive description of corporate governance | Completeness, verifiability, and free from material error | e.g., Jonas and Blanchet (2000) |
| F5 | To what extent does the annual report contain disclosure concerning the “comply or explain” application? | 1 = No disclosure 2 = Limited disclosure 3 = Sufficient disclosure 4 = Very much disclosure 5 = Very extensive disclosure | Neutrality | e.g., Jonas and Blanchet (2000) |
| F6 | To what extent does the annual report contain disclosure related to both positive and negative contingencies? | 1 = No disclosure 2 = Limited disclosure 3 = Sufficient disclosure 4 = Very much disclosure 5 = Very extensive disclosure | Completeness and verifiability | e.g., Dechow et al. (1996); McMullen (1996); Beasley (1996); Rezaee (2003); Cohen et al. (2004); Sloan (2001) |

(Table A1 continued)

| F7 | To what extent does the annual report contain information concerning bonuses of the board of directors? | 1 = No information concerning bonuses 2 = Limited information concerning bonuses 3 = Sufficient information concerning bonuses 4 = Very much information concerning bonuses 5 = Very extensive information concerning bonuses | Neutrality | e.g., Burgstahler et al. (2006); Camfferman and Cooke (2002) |
|-------------------|---|--|-------------------|--|
| Understandability | | | | |
| Question No. | Question | Operationalization | Concept | Literature |
| U1 | To what extent is the annual report presented in a well organized manner? | 1 = Very bad presentation 2 = Bad presentation 3 = Poor presentation 4 = Good presentation 5 = Very good presentation | Understandability | e.g., Jonas and Blanchet (2000) |
| U2 | To what extent does the presence of graphs and tables clarify the presented information? | 1 = No graphs 2 = 1-5 graphs 3 = 6-10 graphs 4 = 11-15 graphs 5 = > 15 graphs | Understandability | e.g., Jonas and Blanchet (2000); IASB (2006) |
| U3 | To what extent does the annual report contain technical jargon in the perception of the researcher? | 1 = Very much jargon 2 = Much jargon 3 = Moderate use of jargon 4 = Limited use of jargon 5 = No/hardly any jargon | Understandability | e.g., IASB (2006); Jonas and Blanchet (2000); Iu and Clowes (2004) |
| U4 | What is the size of the glossary? | 1 = No glossary 2 = Less than 1 page 3 = Approximately 1 page 4 = 1-2 pages 5 = > 2 pages | Understandability | e.g., Jonas and Blanchet (2000) |
| U5 | To what extent does the annual report contain information concerning mission and strategy? | 1 = No information concerning mission and strategy 2 = Limited information concerning mission and strategy 3 = Sufficient information concerning mission and strategy 4 = Very much information concerning mission and strategy 5 = Very extensive information concerning mission and strategy | Understandability | e.g., FASB (2010); Men and Wang (2008) |
| U6 | To what extent is the annual report understandable in the perception of the researcher? | 1 = Very badly understandable 2 = Badly understandable 3 = Poor understandable 4 = Good understandable 5 = Very good understandable | Understandability | e.g., Courtis (2005) |
| Comparability | | | | |
| Question No. | Question | Operationalization | Concept | Literature |
| C1 | To what extent are changes in accounting policies disclosed? | 1 = No disclosure 2 = Limited disclosure 3 = Sufficient disclosure 4 = Very much disclosure 5 = Very extensive disclosure | Consistency | e.g., Jonas and Blanchet (2000) |
| C2 | To what extent are changes in accounting estimates disclosed? | 1 = No disclosure 2 = Limited disclosure 3 = Sufficient disclosure 4 = Very much disclosure 5 = Very extensive disclosure | Consistency | e.g., Schipper and Vincent (2003); Jonas and Blanchet (2000) |

(Table A1 continued)

| C3 | To what extent does the annual report contain information concerning comparison and effects of accounting policy changes? | 1 = No comparison 2 = Actual adjustments (1 year) 3 = 2 years 4 = 3 years 5 = 4 or more years | Consistency | e.g., Cole et al. (2009; 2012); Jonas and Blanchet (2000) |
|--------------|---|---|---------------|---|
| C4 | To what extent does the company present financial index numbers and ratios in the annual report? | 1 = No ratios 2 = 1-5 ratios 3 = 6-10 ratios 4 = 11-15 ratios 5 = > 15 ratios | Comparability | e.g., Cleary (1999) |
| C5 | To what extent does the annual report contain information concerning companies' shares? | 1 = No information concerning companies' shares 2 = Limited information concerning companies' shares 3 = Sufficient information concerning companies' shares 4 = Very much information concerning companies' shares 5 = Very extensive information concerning companies' shares | Consistency | e.g., Lantto and Sahlström (2009); Jonas and Blanchet (2000) |
| C6 | To what extent does the annual report contain benchmark information concerning competitors? | 1 = No benchmark information 2 = Limited benchmark information 3 = Sufficient benchmark information 4 = Very much benchmark information 5 = Very extensive benchmark information | Consistency | e.g., De Franco et al. (2011); Barth et al. (2001); Armstrong et al. (2010) |
| Timeliness | | | | |
| Question No. | Question | Operationalization | Concept | Literature |
| T1 | How many days did it take for the auditor to sign the auditors' report after book-year end? | Natural logarithm of amount of days 1 = 1-1.99 2 = 2-2.99 3 = 3-3.99 4 = 4-4.99 5 = 5-5.99 | Timeliness | e.g., IASB (2008); Leventis and Weetman (2004) |